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## PATENT ABSTRACTS OF JAPAN

(11) Publication number: **1100665**(43) Date of publication of application: **12.01.97**(51) Int. Cl. **F24J 2/04**(21) Application number: **09192986**(22) Date of filing: **16.06.1997**(71) Applicant: **SHIMODA HIROSHI**(72) Inventor: **SHIMODA HIROSHI****(54) HEAT COLLECTING METHOD OF SOLAR  
HEAT COLLECTOR USING AIR AS HEAT  
MEDIUM****(57) Abstract:**

**PROBLEM TO BE SOLVED:** To provide a solar heat collector which uses air as a heat medium, enables free determination of its area, satisfies conditions such as the integration with a roof and the passivation of a heat collecting method, and can be used as a heat collecting tile.

**SOLUTION:** For the material of a rafter for a roof, angular pipes or C-shaped channels 1 and 2 are used to provide the rafter with the function of an air duct, and to passivate the heat collecting method. The air duct of the rafter is provided alternately for air supply and air collection. The interval between the duct for air supply and the duct for air collection is partitioned to form many rhombus heat collecting parts, and to provide an air passageway between the ducts, so that the heat collecting method of the heat collecting part is passivate. The size of a heat collector is determined by the plate which transmits rays on a heat collecting surface 4. When the rhombus heat collecting parts are used as heat collecting tiles, a corrugated plate is used as the plate which transmits the rays, and this corrugated plate becomes a main member which constitutes the heat collecting tiles. Therefore, the upper and lower

parts of the corrugated plate are treated, and the air passageway is provided between the ducts over, when the heat collecting tiles are combined to form the roof, the overlap for rain and moisture condensation proof is also prepared by the treatment of the corrugated plate.

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